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PROGRAMME BUDGET FOR THE BIENNIUM 1992-1993

Integrated management information system project

Fourth progress report of the Secretary General

INTRODUCTION

1. The General Assembly, by its resolution 43/217 of 21 December 1988, approved the implementation of phase I of the integrated management information system (IMIS) over a three-and-one-half year period at a total cost not to exceed $28 million at 1988 rates. Details of the Secretary-General's proposal for the project are contained in his report to the General Assembly at its forty-third session 1/ and in the related report of the Advisory Committee on Administrative and Budgetary Questions (ACABQ). 2/ The purpose of the project is to develop an integrated system for the processing of, and reporting on, administrative actions at all major duty stations. The system will replace the numerous independent systems many of which, built up to 20 years ago and mostly for regular budget activities, are no longer able to provide the support needed by management at a time of rapidly changing needs and increasing demands made on the administrative sector to support peace-keeping activities and those financed from extrabudgetary resources.

2. The Secretary-General has since submitted three progress reports, in 1989, 3/ 1990, 4/ and 1991. 5/ The first progress report provided information on the general work-plan for the first phase of the project until the end of 1992. In his second progress report, the Secretary-General described the progress achieved in 1990. It also provided a detailed analysis of the benefits to be derived in each of the major administrative areas in the analysis of user requirements in the finance, human resources and general services areas.

3. The third progress report described the progress achieved between end-1990 and mid-1991, the plans for the period mid-1991 to 1993, an analysis of the expenditures and a further elaboration on the expected benefits.

4. A panel of independent experts evaluated the IMIS project in accordance with General Assembly resolution 46/185. 6/ The report of the Panel was submitted to ACABQ, as mandated, in August 1992. It reviews the technology, the progress of work since October 1991, the work-plan until the completion of the project, the expected benefits and estimated costs for the entire project and management considerations for the maintenance of the system after its implementation.

5. The present report provides information on the progress of work since the end of 1991 and details on the expected benefits to be derived from the implementation of the system. In section IV, the Secretary-General requests the General Assembly to reconsider its recommendation on the proposed programme budget for 1992-1993 and restore $2,588,263 out of the reduction approved by the Assembly in resolution 46/185.

I. PROGRESS OF WORK AND WORK-PLAN UNTIL MID-1994

A. Implementation strategy

6. As announced in the last progress report, 7/ the original plans for 1992 and 1993 have been partially modified. The new implementation strategy focuses on a gradual introduction of the system in the Organization rather than the simultaneous implementation of all functionalities. IMIS will be implemented in five releases:

(a) Release 1, beginning of 1993: authorization and transaction controls, personnel and posts database and the new account coding structure;

(b) Release 2, spring 1993: expenditures controls, which include general ledger, funds distribution and execution, accounts payable, requisitioning processing of staff entitlements and processing of applications for employment;

(c) Release 3, fall 1993: staff expenditures and cash control, including payroll, accounts receivable, banking and cash management, travel and transportation, leave and attendance;

(d) Release 4, January 1994: complete integrated budget, medical insurance, investment modules, procurement, stock and property management;

(e) Release 5, January 1994: specialized office automation support. It includes text management, form generation and retrieval and electronic data interface (for banking transactions).

7. Through this strategy, the Organization will benefit sooner from the improvements to be introduced by the system. The development and implementation risks of the project will be reduced since parts of the system will be fully tested and modified, if need be, before other parts are implemented. Finally, the users will be confronted more gradually with the changes that the implementation of the system will introduce.

8. The installation of the entire system at Addis Ababa, Amman, Bangkok, Geneva (United Nations Office at Geneva and other offices including the United Nations Conference on Trade and Development (UNCTAD) and Economic Commission for Europe (ECE), the Office of the United Nations High Commissioner for Refugees (UNHCR) and the International Trade Centre (UNCTAD/GATT) (ITC)), Nairobi (United Nations Environment Programme (UNEP), United Nations Centre for Human Settlements (Habitat)), Santiago, Vienna, and at the Mexico City and Port of Spain subregional offices will then be undertaken. It is expected to be completed by mid-1994. The phased implementation at Headquarters will facilitate the implementation at these offices since by far the largest part of the system will have been tested by the end of 1993.

B. System construction

9. Following the approval of the new release strategy, the IMIS team initiated a number of concurrent technical and planning tasks in the area of system construction and system transition. Major tasks in these areas include creating the IMIS database structure for all releases, completing a study on how to implement the United Nations system security requirements, determining the accounting posting rules and values to be used by IMIS, developing a user-training strategy and initiating processes to collect and capture data needed by IMIS that are not currently available in electronic form.

10. More than 600 screens were designed for the first two releases. They were reviewed first by the users at Headquarters to verify their functionality, then by representatives of all major offices away from Headquarters. United Nations Development Programme (UNDP) and United Nations Children's Fund (UNICEF) representatives participated in these meetings. Videotapes of these presentations have been distributed to the offices away from Headquarters, the International Labour Organisation (ILO), UNICEF and UNDP to enable them to present IMIS to their staff.

11. Finally, the technological platform selected for IMIS was reviewed to take into account new technical innovations in the electronic data processing (GDP) field. A request for proposal for the procurement of the main computers to be used at Headquarters was issued in early July 1992.

C. Implementation activities

12. The installation of local area networks (LANs) and the completion of the replacement or upgrading of workstations in the offices that will use IMIS as of the first two releases have been undertaken by the services concerned.

13. The wiring for LANs at offices away from Headquarters is also under way and will be completed during 1993. In the course of the same year, a new request for proposal will be issued for the procurement of the computers at offices away from Headquarters and for the main computer, which will be the repository at Headquarters of the consolidated data of the Organization as a whole.

14. In addition to the training of technical staff, a major activity will be the training of the users. The training strategy takes into account the needs of staff expected to use the system immediately after it is installed, as well as of new or reassigned staff members who will be performing functions through IMIS in the future. For the latter case, facilities for ongoing, ad hoc training must be established. It has, therefore, been decided to design easily reusable interactive training material that can be used on a self-study basis at the work place. In designing the training material, full account will be taken of the requirements of offices away from Headquarters.

D. Work-flow analysis at Headquarters

15. Modern systems like IMIS have a much greater impact on the organization of work than old systems: the activities are in fact performed from the beginning to the end with the support of the system, while previously the data were entered in the computer after the action had been completed and recorded on paper. Work-flow studies are therefore necessary to document the way work will be organized after the implementation of new systems. The IMIS work-flow analysis for Headquarters was completed in June 1992 according to the original plans.

16. On the basis of meetings with the users, the contractor prepared new work-flow diagrams and documented, by job type and by organizational unit, the tasks that will have to be performed with IMIS. The results are now before the users to enable them to adjust their organizational structures to achieve maximum benefit from the new system. The work-flow study has also been instrumental in finalizing the design of screens and in providing a basis for the IMIS training strategy.

E. Work-flow study at offices away from Headquarters

17. The Headquarters work-flow study will serve as a basis for similar reviews to be conducted in 1993 at each duty station away from Headquarters. These duty stations will benefit also from the availability of the actual screens that have been designed and that will be put at their disposal in electronic form early in 1993 to enable them to simulate IMIS operations. The work-flow diagrams and other documentation will be reviewed and modified to take into account the local structure and to determine the training needs. The recommendations submitted by the contractor for organizational or procedural changes have also been made available to these offices. The local administrations will, therefore, have all the information available to prepare each office in time for the implementation of IMIS. At the conclusion of such studies, each duty station will have at its disposal very comprehensive documentation on its administrative structure, on the types of jobs performed and on the skills required.

II. INDEPENDENT EXPERT STUDY AND TRANSITION TO THE NEW SYSTEM

18. The General Assembly, at its forty-sixth session, requested that an independent expert study of the project be conducted to advise ACABQ on the approach and methodology adopted in the development and implementation of the project and to assess whether the benefits outlined in prior reports of the Secretary-General could be achieved. The Steering Committee appointed two civil servants, Mr. Colin Wooles, principal consultant from Consulting and Audit Canada, a government agency specialized among other things in information management audits, and Mr. Edward Bergh, Chief of the Electronic Services of the Swedish Ministry of Foreign Affairs to conduct this study. Both experts have extensive experience in the development, implementation and evaluation of large computerized systems in the public sector.

19. Their conclusions can be summarized as follows:

(a) Technical design. "The chances for technical success of the project are very high. ... The technical design is one which can be used by other organizations in the United Nations system.";

(b) Funding requirements. "The projected total phase I expenditures are marginally above the requested budget of 1988. However, as the General Assembly reduced the requested amount by $3.5 million in 1988 and more recently by a further 4 million 1991 dollars, the project is significantly over the approved budget level at the present time. ... We have a high level of confidence that the results expected for phase I of IMIS are attainable with a funding level which meets the expenditure projections presented in this report."; 8/

(c) Contracting outside expertise. "The procedures for contracting outside expertise have been conducted in a prudent manner and have provided the United Nations with high calibre consultants at competitive prices.";

(d) Selection of hardware and software tools. "It is the Panel's view that sound management practices have been followed in the selection and acquisition of hardware and software.";

(e) Implementation schedule. "We concur that such phased implementation is the only possible course of action the United Nations can take.";

(f) Benefits of IMIS. "The qualitative benefits anticipated for IMIS have been articulated at length in the progress reports of the Secretary-General. We are of the view that these benefits are fully realizable. We also concur that it is not possible to attach precise monetary values on benefit attainment." "[IMIS] is a tool for both Headquarters and duty stations away which has the potential to be used by many more Organizations in the United Nations system.";

(g) Organizational readiness. "Major changes are occurring in the ownership and management of United Nations data and systems which are precipitated by the design philosophy and concepts of IMIS. Such changes and their possible organizational impacts and ramifications do not appear, to the Panel, to be realized or understood. These changes must be managed.";

(h) Acceptance testing. "[Users] must by necessity be involved in the acceptance testing ... Within the IMIS project team, it is necessary to set up an Acceptance Testing Unit ... A test database must be constructed ...";

(i) Information services of the Organization. "With the move towards integrated data systems and consistent technologies on a global basis, there is a need for retrenchment control of information resources management to a central coordinating unit.";

(j) Knowledge transfer. "Staff members who will be involved in all computer operations and software library and maintenance aspects of IMIS must be identified immediately and be provided with the necessary training which is available now ...";

(k) Back-up and recovery. "[back-up, disaster recovery and other contingency plans] must also be subject to acceptance testing.";

(l) Policy decisions. "Where policy decisions are required they should be made expeditiously such that the IMIS programming schedule is not jeopardized.";

(m) Transition management. "The responsibility for transition management must be passed to each user organizational section. ... For release 1, this planning activity must be initiated now."

20. The main concerns of the experts relate, therefore, to the preparatory work that has to be undertaken by the Organization for a smooth introduction of the system in early 1993. This will require that users progressively assume ownership of the system. Towards this end, several activities that

were under preparation during the experts' visit have been reviewed in the light of their observations and have since been undertaken by both the Department of Administration and Management and the IMIS team.

21. The Steering Committee has created a Task Force to facilitate the process of users progressively assuming ownership of IMIS. The task force meets every two weeks to be briefed on the progress of work, to review the tasks to be performed at the office level, to report on the progress of work within each office and on emerging difficulties, and to resolve general issues associated with the implementation of IMIS.

22. With IMIS playing a major role in the organization and performance of work, the United Nations will need to review and strengthen the organizations that traditionally provide technical and application support.

23. Currently, at Headquarters, the technical support is provided by the Electronic Services Division (ESD) while application support is distributed among the various organizational units that use the existing systems.

24. In the case of technical support services, the new technologies require greater interaction than in the past between specialists in the various areas. Since IMIS will coexist with other more traditional systems, it was necessary to establish a flexible structure that would enable ESD to provide the services required without modifying its current organizational set-up. To this effect, a task force has been established within ESD with the participation of technical staff of the IMIS team. It is responsible for planning the operations related to the installation and maintenance of IMIS. The structure of this task force will provide the necessary flexibility to the Organization to adjust to the new technologies being introduced, since it is extremely difficult at present to determine precisely their full impact. Organizational changes, if necessary, will be determined after the full implementation of the system at Headquarters, taking into account the observations of the Panel of Experts regarding information planning strategies.

25. Both the Panel of Experts and the contractor have recommended the creation of a centrally managed applications support organization. This unit would initially be comprised of staff currently assigned to support systems that are to be replaced by IMIS. They would first be trained in the new technologies, tools and methods used in IMIS. The unit would be supplemented by technical specialists who have been part of the IMIS team since the beginning of the project and who are fully familiarized with all the technical components as well as the functional requirements of the system. This solution presents many advantages. It ensures that the system remains integrated. The principle of rotation across application areas would be applied, allowing staff to be polyvalent and able to replace each other when needed. The size of the unit would provide a critical mass for exchange of information on new technologies and its staff members will be able to become aware of the interrelationships between the various elements of the system. In addition, this unit, being responsible for the central maintenance of the system, would have an important liaison role with offices away from

Headquarters, both as a central help resource group and to ensure that the specific needs of these offices are covered in any new enhancement of the system.

26. The IMIS Steering Committee is considering the various options to implement such a recommendation, which in fact were already featured in the report of the Secretary-General on the evaluation of EDP and information systems submitted in April 1987 to the Committee for Programme and Coordination (CPC). 9/ As is the case for the technical support services, this reorganization may have to be implemented progressively, since existing systems will coexist with IMIS until the system has been fully implemented at all duty stations.

27. Further to discussions with the independent experts, provision is being made to hire a consultant to prepare detailed plans for rigorous user acceptance testing, especially in the accounting area. These planning activities are being conducted with users and selected staff, who will be involved in these activities. One major component in this exercise is the creation and documentation of a test database that can be maintained after the completion of the project for testing system modifications.

28. The knowledge transfer activities had just started when the independent experts conducted their study. Some of the technical staff assigned to user support have been closely involved in the study for the conversion of data from the current systems into IMIS, thus acquiring a good knowledge of the structure of the IMIS database. A training programme has been established. Additionally, the IMIS team technical staff will work closely with them during system implementation and for a transitional period thereafter. Thus, the knowledge they will have acquired working with the consultants in the design and construction of the system will be fully utilized after the completion of the work by the contractor.

29. It should be noted that six of the nine Professionals (including the chief of the project) assigned to the IMIS project are United Nations staff members who have complete and detailed knowledge of the technologies used by the contractors.

III. EXPECTED BENEFITS

30. The system should be evaluated taking into account primarily three major factors: the need of the management of the Organization, at both the local and the central level, to have accurate and up-to-date information, which requires that part of the current systems be replaced; the benefits to be derived from an integrated approach with a system common to all duty stations; and the benefits for offices away from Headquarters.

31. The shortcomings of the current independent systems in providing accurate and detailed information to the management of the Organization have been documented in detail in previous reports. 10/ The difficult funding situation

of the Organization, the dramatic expansion in its extrabudgetary and peace-keeping activities over the last 15 years and the restructuring that is currently under way have further demonstrated the urgency of the implementation of a fully integrated administrative system that would enable management rapidly to obtain all the information needed for the decision-making process.

32. Annex I contains a list of the systems that will be replaced by IMIS at the eight major duty stations. Like at Headquarters, some of the systems at offices away from Headquarters are more than 20 years old and needed to be replaced in any case. It is extremely difficult to estimate the costs that would have been incurred by the Organization for the replacement or maintenance of current systems and supporting hardware if an integrated approach had not been approved by the General Assembly. It is also to be noted that a non-integrated approach would have required the duplicate development of similar systems that need to be replaced, such as payroll for example, at several duty stations since at present the technical platforms are not compatible. Moreover, these systems would not have provided the central administration with the information it now requires to handle new activities and an increased workload.

33. Whilst the costs related to IMIS are significant, the separate, non-coordinated development of systems at each duty station spread over the years would certainly have resulted in higher expenditures. This, however, might not have been apparent, owing to the fact that they would have been reflected under separate budget sections and in different budgetary periods.

34. As indicated in annex I, the number of administrative systems that are currently available at each duty station varies considerably. The different technological platforms have in fact rendered impossible, in the majority of cases, the migration among duty stations of systems developed at Headquarters or at other duty stations. The implementation of IMIS will introduce the same functionalities at all duty stations. It is, however, difficult to estimate the monetary values of these substantial benefits.

35. Another important element of cost-effectiveness for Member States derives from the usage of IMIS by other organizations. After a careful and thorough study of the IMIS documentation and a review of the methodology followed, the ILO Steering Committee for a Personnel System recommended that that agency adopt the personnel and payroll parts of IMIS. It is to be noted that the ILO recommendation was made after comparing IMIS with several commercially available software packages. UNDP and UNICEF continued to be kept fully informed about the development of the project and have attended screen presentations and participated in discussions with the users, particularly in the financial and treasury areas. Close cooperation has been established with UNDP on both the technical and the substantive sides. The documentation and experience acquired by IMIS are being used by UNDP in its analysis work. Likewise, the UNDP Integrated Administrative System Project documentation has been used by IMIS in its analysis of users' requirements. Although UNICEF does not currently need to change its recently developed systems, within the

framework of its medium-term strategy, it intends to consider closely IMIS applications first in the human resources area and subsequently in the finance area.

36. The decision of the Organization to provide the IMIS software free of charge to organizations of the United Nations common system has led a number of them to ask for information on the status of the project. Upon its request, a presentation of the project was also made to the Consultative Committee on Administrative Questions/Finance and Budgetary (CCAQ/FB) in September 1992 in New York.

37. The progressive standardization of the hardware between duty stations through IMIS will benefit the administration as well as substantive activities since several duty stations or offices have decided to adopt the IMIS technological platform for substantive applications.

38. The Economic and Social Commission for Asia and the Pacific (ESCAP) has already installed the same type of computer being used for the development of IMIS. The Economic Commission for Latin America and the Caribbean (ECLAC) and UNEP have also decided to move to the same platform. They will be provided with assistance by the IMIS team during their selection of a computer.

39. In addition, the United Nations International Drug Control Programme at Vienna and the United Nations Postal Administration in New York, in the process of creating complex new systems in their areas of activity, are considering the possibility of following the IMIS technical architecture. All the relevant documentation has been provided to these offices and they have been informed of the possibility of taking advantage of the prices already negotiated with the vendor within the framework of the IMIS project for the database management system.

40. Thus, if many systems at one duty station utilize the same platform, maintenance costs will be reduced, support for both administrative and substantive applications will be improved and it could be possible to migrate among duty stations systems developed locally even in the substantive areas. These benefits, while not quantifiable, are nevertheless substantial and have been made possible by the close consultation with offices away from Headquarters during the entire development process and the consensus reached on the technical architecture selected for the project.

41. Qualitative benefits expected from IMIS have been described in detail in previous reports. 11/ The current contractor, at the conclusion of the work-flow analysis confirmed that they can effectively be achieved through IMIS. Annex II provides a detailed list of the major benefits. The independent experts concurred with these conclusions.

42. With the exception of a very few cases, the benefits, while substantial, cannot be quantified in financial terms owing to their nature and to the fact that they cannot be assigned to specific individual functions or to one specific organizational unit. This has been confirmed by the Panel of

Experts. It is impossible in fact, at present, to forecast precisely the actual workload and time that will be spent by each staff member in performing his or her functions with IMIS until the system is fully implemented in all its components. In 1993 and part of 1994, there will be a coexistence of IMIS procedures and of manual procedures related to activities and offices not yet covered by IMIS. Additionally, in many of the administrative functions supported by IMIS, a considerable amount of time is devoted to analysis, review and negotiations, which can hardly be measured, and to other activities not supported by IMIS (servicing committees, preparation of reports and policy papers, etc.).

43. Consequently, the contractor identified only three relatively small areas - the Personnel Data Unit in the Office of Human Resources Management, payroll and the Central Accounts Section where staff savings might be possible following the full implementation of IMIS at all duty stations. It is to be recalled that in 1989, 11 data-entry posts had already been suppressed in the Personnel Data Unit. Seven additional posts were suppressed in the Allowances and Benefits Unit. In both cases the decision was taken in view of the implementation of IMIS. This confirms also the conclusions of the previous contractors. It is to be recalled that, as specifically indicated by the then Under-Secretary-General for Administration during the discussion that followed the submission of the proposals for the project at the forty-third session of the General Assembly, staff reduction has never been one of the objectives to be achieved through IMIS, although in view of the implementation of IMIS the ratio of posts reduced in the Department for Administration and Management during the retrenchment exercise was higher than in any other area. It should also be noted in this connection that when new systems or simply major organizational changes are implemented, the benefits are not immediate, owing to the learning curve required at the beginning. No doubt this will also be the case for IMIS in view of its impact on the way the work will be performed. Several hundred staff members, in fact, at all duty stations, will have to modify their working habits and, for the first time in many cases, will use the computers for performing functions so far based on paper.

44. About one year after the full implementation of IMIS, volume and frequency statistics will be available through the system. Data will be available concerning the time required for performing the different functions. The system will have been tuned, missing data will have been collected and a detailed analysis could then be performed throughout the Secretariat to identify under-utilized resources that could be reassigned to higher-priority areas or to users' support, where there might be a need for additional resources.

45. Finally, as a result of the work-flow analysis, the contractor has made recommendations for improving the administrative functioning at Headquarters. These recommendations were based mainly on observations made and comments received during the work-flow analysis and require further analysis.

46. Additional reviews of the project have led to positive conclusions:

(a) The Board of Auditors was able to verify that specific deficiencies in the administrative procedures of the Secretariat identified during the previous years have been addressed through the design of the system. The Board found that IMIS would be an effective tool for the management of the Organization; 12/

(b) A Panel of two international experts which assisted the United Nations in the formulation of a career development system concluded that a "successful implementation of the IMIS project is a very essential component of the changes proposed". The Panel "was impressed with the proposed IMIS system and considers that it is at the forefront of computer systems when compared to other international civil services";

(c) A joint staff-management Working Group on Career Development concluded that the work done under IMIS was extremely relevant for the career development policy being developed by the Secretariat as it would allow the creation of an accurate and accessible skills inventory of the staff.

47. The IMIS project has also provided the Secretariat with an opportunity to review current procedures. In particular in treasury management activities, a preliminary analysis of that area revealed that there was potential to enhance the IMIS capability. A further analysis was, therefore, undertaken to identify additional treasury requirements, to recommend an improvement programme and to assess the impact of those improvements on IMIS. As a result, improvements in internal control, policy and management information in four areas have been identified, namely cash management, cashiering, bank account administration and portfolio management. The United Nations is now reviewing these recommendations and prioritizing them and will shortly decide how to proceed. It is, however, anticipated that there will ultimately be major improvements in these areas since the majority of treasury functions are at present performed manually. The report of the Board of Auditors 13/ specifically addresses these issues.

48. It should also be considered that part of the expenditures incurred during the development phase are de facto long-term investments. The hardware and software used for the development of the system ($713,000) will be used by the Organization after the system is developed for IMIS maintenance and eventually for the development of other systems. The workstations bought for system development and training will be reassigned to the users, mainly at offices away from Headquarters, owing to the fact that they will be required at Headquarters until the completion of the development. Part of the training costs ($300,000) will be incurred for training technical United Nations staff both at Headquarters and at offices away from Headquarters in modern technologies. This knowledge will be used not only for IMIS but also for the development of systems in substantive areas. A large part of the users' training expenditures will be for the creation of reusable training modules fully integrated with the system. In this way future training costs will be minimized.

IV. FINANCIAL ASPECTS

A. Requirements for the completion of phase I

49. In his report to the General Assembly at its forty-sixth session, the Secretary-General indicated that it was not possible at that stage to estimate the total cost of the project. 14/ With the definition of the new implementation strategy (see para. 6 above) and further progress of work, it is now possible to reassess the total cost of the project (see table 1). Projected expenditures through mid-1994, the expected completion date, are estimated at $41,332,900 at current prices or $33,080,000 in constant 1988 dollars. The regular budget share of the project (65.1 per cent) would amount to $26,907,700, of which $19,579,200 has already been appropriated.

50. The budgetary performance to date and the projected expenditures have been analysed in detail by the independent experts. The experts have concluded that in constant dollars the projected phase I expenditures are marginally above the original budget of $31,593,500 requested by the Secretary-General in 1988. They have further noted that the cost estimate of $28 million in 1988 dollars approved by the General Assembly was based on the planned acquisition of FAO software and that, despite the initial delay when negotiations with FAO proved unsuccessful, the United Nations will benefit in cost avoidance and administrative effectiveness from the decision to develop a modern integrated system using the latest technologies (see sect. III above). The experts have concluded with a high level of confidence that the results expected for phase I of IMIS are attainable with a funding level that meets their expenditure projections.

51. With the system being developed, it has been possible to incorporate a number of functionalities that had originally been planned for phases II and III of the project (see annex III). The cost of those two phases had been estimated at $9,247,000 in 1988 dollars or $11,225,900 in 1992 dollars, approximately half of which would have been required for the functionalities now included in phase I.

52. The expenditure projections represent an increase of $13,332,900 over the approved cost estimate, or $5,080,000 in constant 1988 dollars (see table 2). The increase is primarily due to higher than expected requirements for consultancy services. In addition, no provision had been made in the original cost estimate for training, operating expenses or translation of the screens into French. On the other hand, the requirements for hardware and software have declined, partially offsetting the higher costs of systems development.

53. Actual expenditures as at 31 December 1991 amounted to $9,957,000. Expenditures during the first six months of 1992 amounted to $5,093,300 and expenditures as at 30 June 1992 thus totalled $15,050,300. Based on the new release strategy, it is estimated that a total of $10,866,200 will be expended during 1992 and that $13,228,200 will be required during 1993, bringing projected expenditures to $34,051,400 at the end of 1993. The remaining requirements for the first six months of 1994 are projected at $7,281,500 at current inflation and exchange rates.

Table 1

IMIS project - estimated total cost

(At current prices)

	1989	1990	Total 1989-1990	1991	Total 1989-1991	1992	Total 1989-1992	1993	Total 1989-1993	1994	Total 1989-1994
General temporary assistance	204 500	685 700	890 200	926 500	1 816 700	1 110 600	2 927 300	1 450 000	4 377 300	1 900 000	6 277 300
Travel of staff	9 600	172 300	181 900	3 400	185 300	121 700	307 000	200 000	507 000	400 000	907 000
Training		2 600	2 600	34 400	37 000	493 500	530 500	300 000	830 500	800 000	1 630 500
Contractual services	32 300	2 450 800	2 483 100	4 613 200	7 096 300	7 558 700	14 655 000	9 795 200	24 450 200	1 475 000	25 925 200
Communications		23 200	23 200	24 700	47 900	25 000	72 900	30 000	102 900	40 000	142 900
Supplies and miscellaneous		14 800	14 800	26 500	41 300	44 800	86 100	54 900	141 000	50 000	191 000
Hardware		363 800	363 800	320 100	683 900	940 600	1 624 500	960 300	2 584 800	1 629 000	4 213 800
Software		0	0	48 600	48 600	571 300	619 900	437 800	1 057 700	987 500	2 045 200
Total	246 400	3 713 200	3 959 600	5 997 400	9 957 000	10 866 200	20 823 200	13 228 200	34 051 400	7 281 500	41 332 900

54. The higher rate of expenditure projected in 1992 and 1993 is based on the fact that the major contractual costs for the development and installation of the system will occur during the current biennium, as will expenditures for training and the procurement of hardware and software for the implementation of the system at Headquarters. Equipment is being purchased only as needed in order to benefit from favourable developments in the computer industry. The expenses for 1994 relate to the costs of completing the project at offices away from Headquarters, including additional support staff to assist in implementing the system, the acquisition of hardware and software for those offices, travel of staff for the installation of the software and training of users.

55. By the end of the first quarter of 1993, with the conclusion of several bidding processes, more precise figures will be available concerning the expenditures to be incurred in 1994. Since the projected expenditures are based on the experience gained since 1990 and have been analysed by the independent experts, it may be expected that the actual costs will not differ substantially from these estimates.

Table 2

Total estimated cost of IMIS in constant 1988 and current dollars

	Initial estimates	Revised estimates		Increase/decrease	
		Constant 1988 prices	Current prices	Constant 1988 prices	Current prices
General temporary assistance	4 836 500	4 538 800	6 277 300	(297 700)	1 440 800
Travel of staff	100 000	751 100	907 000	651 100	807 000
Training	-	1 279 900	1 630 500	1 279 900	1 630 500
Contractual services	13 863 500	21 269 400	25 925 200	7 405 900	12 061 700
Operating expenses	-	270 700	333 900	270 700	333 900
Hardware	6 200 000	3 365 800	4 213 800	(2 834 200)	(1 986 200)
Software	3 000 000	1 604 300	2 045 200	(1 395 700)	(954 800)
Total	28 000 000	33 080 000	41 332 900	5 080 000	13 332 900

B. Total estimated costs of phase I (1 January 1989-30 June 1994) at current rates

56. Details of the total project resource requirements under each object of expenditure are indicated below.

1. General temporary assistance

57. The resource requirements ($6,277,300) relate to the cost of the project team staff at Headquarters (one D-1, five P-5, three P-4 and three General Service (other level)) through 30 June 1994 and of regional coordinators at the P-4 level at seven offices away from Headquarters.

2. Travel of staff

58. The requirements for travel ($907,000) for consultation with other duty stations, originally budgeted at $100,000, were significantly underestimated. The independent experts concur that the funding for travel was insufficient for the amount of consultation required with offices away from Headquarters. It is to be recalled that the General Assembly took the decision to approve the implementation of IMIS on the understanding, that, among others the "Secretary-General, in implementing the project, ... would endeavour ... to take measures for effective coordination between the ..." 15/ duty stations concerned. Representatives of the seven offices away from Headquarters have travelled to New York on four occasions (in January 1990, September 1990, May 1992 and June 1992) to participate in the planning of the project, to discuss the technical architecture, to review the screens for releases 1 and 2 and for consultations between focal points and the project team. IMIS team members and consultants have travelled twice to other duty stations, in March and December 1990, to study their requirements and present the logical design of the system. Travel costs will be incurred in 1993 for the review of the screens for releases 3 and 4 and in 1994 for the implementation of the system at offices away from Headquarters, including the user training.

3. Training

59. The requirements ($1,630,500) relate to contracts for the technical training of support staff and training of users, for which no provision was made in the initial estimates.

4. Contractual services

60. Not only were the actual market costs of consulting services higher than anticipated, but it also became apparent in the course of the project that a number of additional studies (work-flow analysis, quality assurance, user acceptance) would be necessary. Also, no provision had been made for

out-of-scope work, which is usually included in cost estimates for large projects to allow for changes in organizational policy and user requirements not foreseen during the initial study of the system. For projects of this size, it is common to make provisions for up to 20 per cent of the initial contract costs for out-of-scope work. The independent experts have concluded that the consultancy costs are necessary for the successful implementation of the project and in line with the market costs of such services.

61. The major part of the costs of contractual services ($25,925,200) relates to the contract for internal design of the system ($17 million), which was signed in July 1991. Other contracts with consulting firms include the external design of the system ($2.1 million), which was completed in December 1991, out-of-scope work (estimated at $1.6 million), quality assurance and user acceptance testing.

62. The estimated requirements also include the translation of the screens into French ($350,000), for which no provision was made in the initial project budget.

63. Other contractual costs include data-processing services required in connection with the design of the project and data entry.

5. Operating expenses

64. All the project-related expenditures are charged to the budget of the project. The estimated requirements ($333,900) relate to communications with offices away from Headquarters ($142,900) and supplies and other miscellaneous expenses ($191,000), for which no provision was made in the initial estimates.

6. Hardware

65. The total hardware requirements are estimated at $4,213,800, as compared with the initial cost estimate of $3,100,000 for processors at six duty stations and $3,500,000 for terminals. The revised requirements would cover the cost of servers and personal computers for development and training purposes, the central processor/database server or corporate database, database servers at each duty station and microcomputer workstations providing users with terminal access to the local processor. Expenditures in 1991 relate primarily to the purchase of hardware for the development of the system. The request for bids for procurement of servers at Headquarters was issued in July 1992, and the central processor will be acquired in 1993. The request for bids for procurement of servers for offices away from Headquarters will be issued mid-1993.

66. By procuring the equipment only as needed, it has been possible to take advantage of decreasing costs as well as to avoid obsolescence. Furthermore, since the inception of the project, most of the terminals required have been purchased through departmental office automation programmes. As recommended

by ACABQ, a survey has been taken to determine the number of IMIS users requiring terminals. It was originally estimated that 2,000 workstations would be required, of which 1,000 were to be purchased with project funds. It is now estimated that, out of 1,940 workstations required, only about 350 will be purchased from project funds. These 1,940 terminals will be used by administrative staff at all offices. In addition, it is planned to give access to IMIS to selected existing workstations in the substantive offices to enable them to initiate administrative actions to be forwarded to executive or administrative offices.

7. Software

67. The requirements for software were initially estimated at $3,000,000 ($1,530,000 for operating system software and $1,470,000 for database management systems software). The current estimate of $2,045,200, which also includes the software for the development of the system, thus represents a decrease.

C. Budgetary requirements for the completion of phase I

68. It will be recalled that, in the proposed programme budget for 1992-1993, the Secretary-General estimated that, based on the original estimate approved by the General Assembly in 1988 with an adjustment for inflation, the total cost of the project would amount to $34,389,800 over the period 1989-1993. On that basis, the Secretary-General requested an appropriation for the biennium 1992-1993 of $9,622,200 to cover the regular budget share of projected expenditures. Taking into account the rate of expenditure at that time, the Assembly reduced that request by $2,622,200 in the appropriations for 1992-1993.

69. The total appropriations from the regular budget for the period 1989-1993 amount to $19,579,200 (see table 3). Since 34.9 per cent of project costs are being funded from extrabudgetary resources, the approved funding through the end of 1993 amounts to $30,075,600.

70. As indicated above (see para. 52), total project expenditures at the end of 1993 are expected to amount to $34,051,400, of which the regular budget share would be $22,167,500 Consequently, there will be a shortfall in 1993 of $3,975,800, the regular budget portion of which amounts to $2,588,300.

71. In order not to delay the project, the Secretary-General is requesting the General Assembly to reconsider its decision on the proposed programme budget for 1992-1993 and to restore $2,588,300 out of the reduction approved in its resolution 46/185.

72. The independent experts appointed at the request of the General Assembly in resolution 46/185 have provided additional justification for the Secretary-General's estimate. Furthermore, the amount originally requested in

Table 3. Regular budget appropriations and remaining requirements

	Appropriations	Regular budget share of expenditures (65.1%)	Unexpended balance/ (remaining requirements)
		$	$
1989	3 424 000	160 400	3 263 600
1990-1991	9 287 800	6 321 600	6 229 800
1992-1993	6 867 400	15 685 500	(2 588 300)
Total 1989-1993	19 579 200	22 167 500	(2 588 300)
1994	-	4 740 200	(4 740 200)
Total 1989-1994	19 579 200	26 907 700	(7 328 500)

real terms in the context of the programme budget for 1992-1993 falls within the cost estimate approved by the General Assembly in resolution 43/217. Since the $2,588,300 now requested is within the level of resources included in the proposed programme budget for 1992-1993, it is the Secretary-General's view that the restoration should not be considered an additional expenditure falling within the scope of the contingency fund.

73. An appropriation for the regular budget share of the remaining costs of the project will be requested in the context of the proposed programme budget for 1994-1995.

D. Maintenance costs

74. The hardware and software maintenance costs are estimated at 15 per cent of the estimated purchase costs, or approximately $750,000 a year. This is the standard formula used for determining maintenance costs, although it is possible that the standardization of the hardware and software may enable the Organization to reduce this percentage to 10 per cent. These costs relate to the central processor at Headquarters, the local database servers at each duty station and the related software. There is a one-year warranty on the purchase of the hardware and the software.

75. These costs will be partly offset by savings in the costs incurred for the maintenance of hardware for the existing systems at some duty stations. It is estimated that, when the existing systems are phased out or the lease for hardware ends, the annual savings in maintenance of existing systems will amount to approximately $611,200 as shown in table 4 below.

76. At other duty stations, savings cannot be identified because the existing hardware will continue to be required for non-administrative applications. At Headquarters, the maintenance of the mainframe is a fixed cost.

77. The replacement costs will be covered by the global replacement programme at each duty station, the value of the servers and personal computers being reflected in the related provisions.

Table 4. Estimated savings in maintenance of existing systems

	$	$
United Nations Office at Geneva		
International Computing Centre usage	330 000	
IBM maintenance	18 000	348 000
United Nations Office at Vienna		
United Nations Industrial Development Organization mainframe usage	118 200	118 200
Economic Commission for Africa		
Hardware	31 000	31 000
Economic and Social Commission for Western Asia		
Software	60 000	
Hardware	54 000	114 000
Total estimated savings		611 200

Note: Hardware and software maintenance only, except in the case of the International Computing Centre and United Nations Industrial Development Organization mainframe usage, which also includes the cost of technical support staff. Part of the savings may therefore be offset by requirements for technical staff in Geneva and Vienna to the extent that they cannot be absorbed within the overall level of technical support for existing systems.

78. As indicated in section II above, technical and applications support would be provided by reassigning staff who perform these functions for the existing system. Some of the existing systems, mainly at Headquarters, will run in parallel with IMIS until it is implemented at all duty stations. Since the existing systems will require maintenance until they are phased out, it is expected that there will be some additional requirements for general temporary assistance in 1994-1995. It is also expected that an additional workload will be generated until the end of 1995 because of the need to tune the new system, develop new reports and provide additional support to new users of computerized systems. The additional requirements are estimated at 18 work-months at the P-5 level, 54 work-months at the P-4 level and 18 work-months at the P-3 level.

E. Future development costs

79. The remaining requirements for phases II and III (see para. 50 above) are being deferred for the time being.

80. However, the possibility is being explored of having IMIS customized for use in the field, in particular for emergency assistance operations. Recent tests have demonstrated that, with the technology chosen and the growing power of workstations and small servers, such a project can be implemented successfully. This development would make IMIS even more attractive to other organizations of the United Nations system that are more field-oriented than the Secretariat and which may then decide to use IMIS with additional considerable cost savings for Member States. It is not possible at present to provide cost estimates for the work required for this customization. Should other organizations confirm their interest in such a project, an analysis of the estimated effort required will be made during the first half of 1993 and a detailed plan, developed in cooperation with them, may then be submitted to the General Assembly at either its forty-eighth or its forty-ninth session.

Notes

1/ A/C.5/43/24.

2/ Official Records of the General Assembly, Forty-third Session, Supplement No. 7 (A/43/7/Add.10).

3/ A/C.5/44/8.

4/ A/C.5/45/20.

5/ A/C.5/46/24.

6/ Official Records of the General Assembly, Forty-sixth Session, Supplement No. 49 (A/46/49); resolution 46/185, part B, sect. V, para. 6.

Notes (continued)

7/ A/C.5/46/24, para. 48.

8/ The expenditure data in the present report differ from those compiled by the independent experts in a number of ways. The total cost estimates are the same. The differences are as follows:

(a) The figures contained in the present report are based on the United Nations accounts. The experts found that the expenditure figures available through the United Nations accounting system were not at the level of detail required for their purposes and compiled figures from an itemized list of the actual disbursements made each year. Because expenditures in the accounts include unliquidated obligations, the distribution of expenditures by year differs. The breakdown of expenditures used by the experts also differs from that in the accounts. To make the figures in the present report comparable with those contained in the independent experts report, consultants have been aggregated with contractual services, which also include systems design and development and data-processing services;

(b) In converting the figures into constant 1988 dollars, exchange rates for staff costs at offices away from Headquarters have also been taken into account;

(c) On the basis of recent expenditure data, the phasing of projected expenditures for 1992, 1993 and 1994 has been revised;

(d) Figures have been rounded to the nearest hundred.

9/ E/AC.51/1987/11, paras. 13, 14, 116, 117 and 120.

10/ A/C.5/42/18, paras. 5-8, and A/C.5/43/24, paras. 5-13.

11/ A/C.5/45/20, paras. 21-37, and A/C.5/46/24, paras. 52-69.

12/ Official Records of the General Assembly, Forty-seventh Session, Supplement No. 5 (A/47/5), para. 283.

13/ Ibid., paras. 92-98.

14/ A/C.5/46/24, para. 36.

15/ A/43/980, para. 44.

Annex I

SYSTEM TO BE REPLACED BY IMIS

HEADQUARTERS

Attendance information management system

Automated purchase and payment system

Budget information system

Budget revision system

Education grant PC system

ESD inventory systems

Field staffing table

General accounting system

Insurance information system

Materials management information system

Online fellowship system

Online separation system

Online travel and salary advance system

Payroll system

PC-based spreadsheets (cash receipts)

PC-based spreadsheets (manual check register)

PC-DBIV database - insurance

PC paradox database - insurance

PC paradox database to track after-service health insurance cash receipts

Personnel system

Programme performance system

Project control records

Recruitment planning and monitoring system

Rental subsidy system

Roster of external candidates system

Experts recruitment status system

ECONOMIC COMMISSION FOR AFRICA

Payroll

General accounts with accounts receivable ledger and pension sub-systems

Personnel information: P5 application, staffing table, roster

General service: Inventory, purchase order

ECONOMIC COMMISSION FOR LATIN AMERICA AND THE CARIBBEAN

Accounts

Payroll

Pension Fund

Project control

Personnel database

Procurement

ECONOMIC AND SOCIAL COMMISSION FOR ASIA AND THE PACIFIC

Payroll

Accounts

Pension

Medical insurance plan

Personnel

Letter of authorization

Pay-change actions

Accounts voucher

Purchase order

Inventory

Receiving and inspection

Security system

Grounds pass (ID card)

Visitor reception

Overtime

ECONOMIC AND SOCIAL COMMISSION FOR WESTERN ASIA

Accounts payable and receivable

Staffing table

Personnel information data

Procurement

Building management

UNITED NATIONS CENTRE FOR HUMAN SETTLEMENTS (Habitat)

Payroll

Accounts

Project reports

UNITED NATIONS ENVIRONMENT PROGRAMME

Accounting

Payroll

Personnel management

Project management

Inventory control

Travel management

OFFICE OF THE UNITED NATIONS HIGH COMMISSIONER FOR REFUGEES

Field office accounts and implementing partner recording

Field office budget

Administrative budget preparation system

Budget preparation

Budget control

Issuance of implementing instruments

General ledger

Project control

Project management

Career development

Recruitment

Personnel action processing

Staffing table (post management)

Consultant roster

Emergency roster

Procurement system

UNITED NATIONS OFFICE AT GENEVA

Finance

Accounts/general ledger system

Financial accounting input transaction handling

Treasury/computer-assisted treasury operations

Accounts/computer-assisted bank accounts reconciliation

United Nations medical plan

Regular payroll

Short-term field and short-term payroll

Rental subsidy

Payroll to pension

Electronic fund transfer system

Budget

Budget performance

Staffing tables control

General services

Supply management and related transactions

Inventory data extraction, accounting and listing

Telecommunication billing

Personnel

Bern cards

Information system

UNITED NATIONS OFFICE AT VIENNA a/

Accounting

Staffing table

Inventory control

Payroll, COBOL

Journal voucher system

Pension Fund system, COBOL

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a/ Currently UNIDO systems.

Annex II

LIST OF IMPROVEMENTS IN THE UNITED NATIONS OPERATING ENVIRONMENT
THAT WILL RESULT FROM THE IMPLEMENTATION OF IMIS

A. Finance and accounting improvements

ID	IMIS feature	Benefit
FM1	Provides funds control through on-line funds availability checking as financial transactions are processed	Prevents overspending and provides the basis for accurate and timely status of funds reporting
FM2	Automatically generates and posts accounting entries based on business transactions entered in IMIS	Ensures accounting for the United Nations is accurate and timely and reduces the level of effort required to post and record accounting entries
FM3	Provides on-line edit and validation of financial transactions	Ensures timely and accurate financial reporting and reduces the number of journal vouchers required to record correcting entries
FM4	Provide on-line approval of journal vouchers	Provides control over journal vouchers entered by requiring on-line approval
FM5	Automates the account-closing process, including standard closing entries and the capability to roll forward unliquidated obligations to the next period	Facilitates and expedites the closing process by minimizing the number of manually prepared journal vouchers and other manual closing procedures
FM6	Provides automated consolidation of major duty station and Headquarters accounting data	Facilitates account closing and financial reporting
FM7	Provides standard organization-wide financial management reporting at both the summary and the detailed level for access by authorized users	Facilitates the analysis and monitoring of financial information

ID	IMIS feature	Benefit
FM8	Provides the capability to maintain accounting reference table data such as the account code structure, posting rules, programme support cost rates, responsibility centres, peace-keeping assessment categories and physical locations (e.g. country); and validates transactions entered against the tables	Creates a consistent basis for consolidating financial information and integrating budgeting and accounting data and ensures validity of transactions entered
FM9	Provides on-line approval of allotments/suballotments	Provides control of allotments and suballotments entered by requiring on-line approval
FM10	Provides automated capability to identify discrepancies between authorized amounts and inter-office voucher (IOV) amounts	Facilitates the monitoring of authorized versus processed IOV transactions
FM11	Integrates purchasing, accounts payable and disbursement information in IMIS	Improves the ability of the United Nations to respond to payment inquiries, reducing the time required to track and follow-up on disbursement/invoice questions from vendors and other payees. Eliminates redundant data entry
FM12	Provides a central repository of payee and payer information by using a unique identifier for a vendor, staff member, third party, country or any other United Nations payer or payee	Improves control over payments by facilitating the adjustment of payments against receivables. This supports the prevention of making a payment to a payee whose outstanding receivables balance exceeds the payment amount
FM13	Automates matching of invoices to receiving reports and purchase orders (contracts)	Expedites payment process, providing the capability to take advantage of vendor discounts, improve vendor relationships and enhance cash-flow management
FM14	Provides on-line approval capability for the creation, amendment and cancellation of payment vouchers	Provides control over transactions entered by requiring an on-line approval
FM15	Integrates billing and receipt data for pledges and other receivables	Expedites matching receipts to receivables

ID	IMIS feature	Benefit
FM16	Provides automated support for the calculation of assessment amounts and generation of bills, pledge letters and assessment letters	Facilitates the establishment of receivables and generation of bills, pledge letters and assessment letters. Calculates assessment amounts
FM17	Provides the capability to establish, adjust, cancel and write-off a receivable with on-line approval	Provides control over accounts receivable transactions entered by requiring on-line approval
FM18	Integrates accounts receivable information	Provides timely and accurate status of receivables information and facilitates the tracking of current and aged receivables
FM19	Provides the capability to reconcile bank account automatically	Expedites the reconciliation process for bank accounts currently reconciled manually and moves control over the reconciliation of bank accounts currently reconciled by Chemical Bank to the United Nations. Eliminates the need for Chemical Bank to perform bank account reconciliations for the United Nations
FM20	Provides an on-line query of unreconciled bank transactions	Assists in the monitoring of current and aged unreconciled bank transactions
FM21	Provides integration of treasury and accounting data. Automatically updates cash book balances based on disbursements, deposits, and other transactions affecting cash	Improves the United Nations ability to forecast short-term and long-term cash requirements by providing up-to-date information on: (a) Bank account activity; (b) Investment activity; (c) Cash flow and cash requirements. Eliminates redundant data entry
FM22	Provides on-line capability to track investments and their maturity dates	Facilitates the tracking of investments and their maturity, providing improved capability for making investment decisions

ID	IMIS feature	Benefit
FM23	Provides automated capability to maintain investment terms for an investment including variable interest rates	Facilitates the tracking of investments, providing improved capability for making investment decisions
FM24	Provides an automated distribution of paid earnings to funds and produces a comparison of accrued earnings against paid earnings for investments	Ensures the accurate distribution of paid earnings and facilitates the review of accrued versus paid earnings
FM25	Provides the capability to maintain and report on current and historical bank and bank account information and record the opening and closing of bank accounts	Facilitates the tracking of banks and bank accounts and ensures the validity of bank transactions entered. Eliminates the need to track manually historical bank account information
FM26	Provides the capability to maintain and report on all valid currencies and exchange rates	Facilitates the tracking of currencies and exchange rates. Ensures transactions are entered only for valid currencies. Automatically calculates United States dollar equivalent of foreign currency transactions and revalues obligation balances as part of the closing process
FM27	Provides book balances by bank account prior to approving disbursements	Facilitates the review of cash availability prior to disbursing
FM28	Provides on-line approval to release disbursements	Ensures control over the release of disbursements
FM29	Automatically updates accounts payable when payment is made	Ensures quality and timeliness of accounting for payment transactions and reduces the level of effort required to enter, post and track payment transactions
FM30	Automatically updates payment vouchers with check numbers	Greatly facilitates tracking and follow-up of disbursements/invoice questions from vendors and other payees by creating an audit trail of payment transactions and associated check numbers

ID	IMIS feature	Benefit
FM31	Provides on-line payment history data	Facilitates research and auditing of transactions, and trend analysis
FM32	Provides system controls and manual procedures which support segregation of duties and safeguarding of negotiable instruments	Produces a secure and reliable facility for controlling the receipt, investment, and disbursement of cash
FM33	Provides consistent manual and automated budget formulation procedures	Supports the timely and efficient preparation of the regular, extrabudgetary and peace-keeping budgets
FM34	Provides decision support for the assignment of budgeted resources and their standard costs	Supports timely and efficient preparation of the regular, extrabudgetary and peace-keeping budgets
FM35	Provides more timely comparison of previous budgeted amounts and actual expenditure amounts for use in forecasting budgeting needs	Supports timely and efficient preparation of the regular, extrabudgetary and peace-keeping budgets
FM36	Provides the history of changes in the organization and format of the budget. Changes include, for example, the addition of a new section and/or format modifications to the budget resulting from United Nations organizational changes	Enables the United Nations more easily to track changes in the organization and format of the regular, extrabudgetary and peace-keeping budgets
FM37	Integrates programme performance output and programme monitoring information	Improves the ability to monitor programme performance and eliminates redundant data entry
FM38	Integrates departmental and central budget processing for the regular, extrabudgetary and peace-keeping budgets	Eliminates redundant data entry and improves the timeliness of budget formulation
FM39	Provides the capability for departments to view budget changes resulting from reviews by central budget and committees on-line	Improves timeliness of the review of budget formulation data
FM40	Provides the capability to establish standard costs for non-personnel resources based on actual costs (in addition to the standard costs already being established for personnel resources)	Improves the ability to estimate costs for a wider range of resources

ID	IMIS feature	Benefit
FM41	Provides the capability to establish a spending plan and track performance against the spending plan	Improves control of funds and long-term cash forecasting
FM42	Provides on-line capture of world-wide post information for loan, freeze, creation and transfer decisions	Facilitates the timely monitoring of the status of world-wide posts
FM43	Provides integration of post management data for human resources and budget areas	Facilitates the monitoring of the status of posts
FM44	Provides a unique identifier for each post over time	Eliminates the manual effort currently required to track and reconcile history of a post

B. Human resources improvements

ID	IMIS feature	Benefit
HR1	Provides integration of personnel and payroll information for effective data (e.g., retroactive, current and future) processing of personnel actions	Eliminates duplicate data entry in payroll and personnel
		Reduces the cycle time to prepare and approve personnel actions by eliminating the need to consult the official status file and fact sheets
HR2	Automates the eligibility for and calculation of entitlements using an expert system and provides integration of this information with the payroll system	Provides consistent application of entitlement eligibility and other rules
		Eliminates manual calculation of entitlement amounts
		Provides monitoring and control of entitlement exceptions
		Provides flexibility in establishing and changing entitlement rules
		Provides automatic calculation of entitlements based on the effective period (e.g., retroactive and current) of the approved personnel action
HR3	Provides monitoring capabilities of personnel actions and entitlement exceptions	Improves monitoring and control of personnel actions and entitlement exceptions
		Facilitates the review of policy decisions
		Provides more consistent application of entitlement exceptions
HR4	Provides simulation of impact of entitlements	Provides quantitative assessment of policy changes

ID	IMIS feature	Benefit
HR5	Provides comprehensive rental subsidy, education grant and mobility statistical reporting	Eliminates redundant data entry to support rental subsidy, education grant and mobility statistical reporting for the Consultative Committee on Administrative Questions and the International Civil Service Commission
HR6	Provides integration of insurance and payroll information	Eliminates duplicate data entry in insurance and payroll
		Improves control over payment of insurance premiums
		Reduces cycle time to reconcile premium payments
		Eliminates insurance premium overpayments
HR7	Automates after service health and dental insurance eligibility and other rules	Provides consistent application of insurance eligibility and other rules
		Reduces after service health and dental insurance enrolment cycle time
HR8	Provides integration between insurance and personnel information	Provides up-to-date and accurate staff member (including new staff members) and retiree status information
		Eliminates the duplication of data entry of staff member basic information
		Improves tracking of eligible insurance participants
		Provides up-to-date and accurate dependent and beneficiary information

ID	IMIS feature	Benefit
HR9	Provides integration between leave and attendance and personnel information	Consolidates the leave and attendance record-keeping for all staff (e.g., annual, sick, certified sick, time worked, overtime, compensatory time off, night differential, home leave)
		Improves tracking of leave accrual and usage
		Improves accuracy in recording overtime, compensatory time off and night differential
		Eliminates the need for manual tracking of eligibility to sick leave at full and half pay
		Provides accurate recording of eligible overtime, compensatory time off and night differential
		Reduces the manual effort to determine eligibility for leave, overtime, compensatory time off and night differential
		Minimizes leave eligibility errors
HR10	Automates sick-leave certification	Improves tracking of certification of sick leave
HR11	Provides integrated personnel status information for payroll processing	Reduces the number of salary advances processed
		Eliminates (payroll) payments to staff members with expired appointments
		Reduces the cycle time to establish a new or reappointed staff member in the payroll system

ID	IMIS feature	Benefit
HR12	Provides payroll processing for 300 Series staff	Eliminates the manual calculations and supporting processes to pay 300 Series staff
		Provides accurate and consistent payment of 300 Series staff
		Provides accurate and consistent payment of overtime, compensatory time off and night differential
HR13	Provides automated scheduling of advance recoveries	Improves the accuracy and control over the scheduling of advance recoveries
HR14	Provides capability to track former and current staff member debts	Improves tracking of former and current staff member debts
HR15	Automates the processing of medical clearance request	Reduces the cycle time to process the medical clearance request
		Provides accurate and up-to-date medical classification/clearance information
HR16	Provides on-line access to comprehensive personnel information	Reduces the need to request, obtain and consult paper files (e.g., official status file and fact sheets)
		Provides up-to-date and accurate personnel information that facilitates the decision-making process and expedites proceedings through the promotion bodies

ID	IMIS feature	Benefit
HR17	Provides integrated and comprehensive personnel information for reporting purposes	Provides up-to-date, timely and accurate personnel reporting
		Minimizes the manual verification and reconciliation of personnel information used for reporting
HR18	Provides comprehensive and integrated staff member information to support transfers across duty stations and reappointments	Eliminates duplicate data entry in receiving duty stations (Headquarters only)
HR19	Provides performance evaluation report information	Provides timely and thorough tracking of staff members requiring a performance evaluation report
		Provides improved and accurate performance evaluation report information
		Improves control over administration of performance evaluation report and rebuttal process
HR20	Automates the generation of fact sheets	Provides timely and accurate fact sheet information and reporting
HR21	Provides an integrated and comprehensive staff member skills inventory and applicant roster including the recording of examination and test results	Improves accuracy and flexibility in identifying qualified internal and/or external applicants
		Eliminates duplicate data entry of applicant roster information and staff member skills inventory data
		Provides consistency of roster and skills inventory information for Professional, General Service and technical assistance staff
		Provides up-to-date and accurate examination and test results by person including applicants

ID	IMIS feature	Benefit
HR22	Provides integrated and comprehensive applicant information	Provides timely and accurate applicant information and statistics
HR23	Automates the processes related to administering the fellowship and study tour programmes	Improves control of disbursement of funds to be used for fellowship and study tour programmes
		Eliminates manual tracking of interim progress and final reports due from the fellow
		Eliminates the need for manual preparation and processing of the miscellaneous obligating document
HR24	Automates job classification processing	Improves consistency and control of job classification
		Facilitates standardization of job descriptions
		Improves the availability of timely and accurate job description information
HR25	Requires the classification of job description based on movement of staff	Ensures proper matching between staff member grade, classified level of job description and budgetary level of the post
HR26	Automates the recruitment process	Provides timely and accurate recruitment status information
HR27	Provides post management reporting for the identification of future vacancies	Eliminates the manual effort to identify and track post vacancies
		Provides timely and accurate post assignment information (for example, expiration of appointment and retirement)

ID	IMIS feature	Benefit
HR28	Automates the consultant and individual contractors recruitment process	Improves the consistency and control of preparation and approval of the special service agreement (SSA) Provides timely and accurate consultant and individual contractor information Eliminates the manual preparation of annual report on consultants
HR29	Automates the advisory meeting participants' information	Eliminates the effort manually to track advisory meeting participants Eliminates the manual preparation of the annual report on advisory meeting participants
HR30	Automates the processes related to administering the internship programme	Provides up-to-date and accurate intern data
HR31	Provides multiple applicant selection for conference staff appointments	Reduces the cycle time to process conference staff appointments
HR32	Provides automated support for the collection of geographical information and reporting of the composition of the Secretariat	Provides timely and accurate geographical distribution reporting to United Nations management
HR33	Provides automated support for tracking documents issued to staff members by the United Nations, Governments and other bodies	Provides timely and accurate identification, travel and other document information Reduces the cycle time to identify documents to be recovered upon separation/termination
HR34	Automates the military observers' information	Eliminates the effort to manually track military observers

ID	IMIS feature	Benefit
HR35	Provides on-line capture of world-wide post information for loan, freeze, creation and transfer decisions	Facilitates the timely monitoring of the status of world-wide posts
HR36	Provides integration of post management data for human resources and budget areas	Facilitates the monitoring of the status of posts
HR37	Provides a unique identifier for each post over time	Eliminates the manual effort currently required to track and reconcile history of a post

C. General services improvements

ID	IMIS feature	Benefit
GS1	Provides for the on-line creation, editing and amendment of travel requests	Facilitates the initial entry of travel requests, and any necessary edits or amendments
GS2	Provides the capability to access and select personnel information for the on-line creation of the travel documents	Reduces the cycle time, and increases the accuracy of the travel request by providing the ability to access current and accurate personnel information from the database
GS3	Provides for selection from a travel and shipment entitlement database	Reduces the cycle time for the creation of the travel request process by providing the ability to access current and accurate travel entitlement information from the database
GS4	Provides for access to financial account information to verify the availability of funds for the certification of travel request	Reduces cycle time for the travel request certification process through on-line availability of fund/account information
GS5	Provides the capability to select travel claim information from travel request data	Reduces the cycle time for the creation of the travel claim by reducing the manual entry of data
GS6	Provides the capability to maintain and select information from travel data tables (including travel rates and locations)	Decreases the processing time of the travel request and travel claim by reducing inquiry and manual re-entry time
GS7	Provides the capability to maintain and select information from shipping data tables (including shipping rates and shipment insurance rates)	Decreases the processing time of the travel request and travel claim by reducing inquiry and manual research and entry time
GS8	Provides the capability to select information from the request document when creating a requisition	Reduces the processing time for the creation of the requisition by eliminating the manual entry of existing information

ID	IMIS feature	Benefit
GS9	Provides the capability for on-line creation, editing and amendment of the requisition	Facilitates the initial entry of the requisition and any modifications that may be required
GS10	Provides the capability for on-line access of financial information to review funding accounts for the certification of a requisition	Decreases the cycle time for the requisition certification process through the on-line availability of funding information
GS11	Provides the capability for on-line review and determination of the status of the requisition	Decreases the time to determine the current status of the requisition within the procurement process
GS12	Provides the capability to identify and review grouped requisitions and associated status on-line	Reduces the time involved in identifying grouped requisition data
GS13	Provides the capability to maintain, access, view and select catalog code information from a catalog database	Increases the accuracy of the entry of catalog code information; and decreases the manual identification and entry of catalog code information
GS14	Provides the capability for on-line review of product lines and offerings by vendor	Decreases the vendor selection cycle time by providing a listing of current vendor product line information
GS15	Provides the capability to generate raw and weighted scores and rankings on quantitative and qualitative data for vendor responses to invitations to bid	Reduces the processing time to develop a method for objectively scoring vendor responses to invitations to bid
GS16	Provides the capability to select information from existing invitations to bid, requests for proposals, requisitions, contracts and purchase orders when creating new contracting and procurement documents	Ensures a more timely and efficient method for creating, updating and amending contracting and procurement documents. Decreases the manual effort required to search/identify and enter contracting and procurement information
GS17	Provides the capability to review and select standard clauses for incorporation into contracting and procurement documents	Ensures a more timely and efficient method for creating, updating, and amending contracting and procurement documents. Decreases the manual effort required to create and enter contracting and procurement documents

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ID	IMIS feature	Benefit
GS18	Provides the capability for on-line creation, modification, amendment and approval of purchase orders and contracts	Reduces the cycle time for the initial entry and update of purchase orders. Increases the timeliness and accuracy by decreasing repetitive manual entry actions
GS19	Provides the opportunity for volume discounts through the grouping of purchase orders	Generates the opportunity for volume discount savings resulting from the grouping of purchase orders
GS20	Provides the capability to provide on-line approval for the financial liquidation of unused pre-encumbered funds	Reduces the cycle time involved in the release of pre-encumbered funds
GS21	Provides the capability to determine the status of any contracting or procurement document	Reduces the cycle time involved in determining the status of the procurement
GS22	Provides the capability to review the procurement history of a blanket purchase order, including revisions, status and amounts called off	Decreases the time to determine the funds availability for a blanket purchase order
GS23	Provides on-line capability to determine if an invoice has been paid, when unacceptable items have been received from the vendor	Reduces the time to determine the appropriate action required for disposition of unacceptable items
GS24	Provides on-line reporting capability of initial receiving and inspection information	Facilitates the immediate availability of receiving and inspection information
GS25	Provides reporting capabilities for damages to shipments	Reduces the time involved for the tracking and control for the processing of damaged goods
GS26	Provides for on-line recording of delivery receipts and material movement information	Reduces the time to identify the location of property items
GS27	Provides on-line access to inventory location information	Reduces the cycle time involved in determining the correct inventory (stockroom) locations of items being received, moved, issued or physically inventoried

ID	IMIS feature	Benefit
GS28	Provides the capability to review current quantities of expendable and non-expendable stock items	Reduces the time to determine whether sufficient quantities exist to fulfil stock requisitions. Decreases the processing time of a stock requisition
GS29	Provides the capability to review the procurement history, including quantities, by catalog code	Increases the ability to track and monitor the procurement history and stock level quantities by catalog code, in a timely manner
GS30	Generates a discrepancy listing of physical inventory (on-hand, actual) items that do not match the system quantities	Reduces the cycle time for the identification and resolution of physical inventory discrepancies
GS31	Provides the capability to maintain, review and select information from disposition tables	Facilitates the timely identification of disposition actions resulting in decreasing disposition processing time
GS32	Provides the capability to on-line create and approve a disposition case for a stock discrepancy	Reduces the cycle time involved for the creation and initial entry of disposition cases by importing information from the physical inventory discrepancy listing. Decreases the time to identify and review discrepancies resulting from a single physical inventory
GS33	Generates a listing of pending stock deliveries to be made	Decreases time to determine stock delivery information, and inquiries
GS34	Provides on-line access to catalog code information in determining catalog code and decal number assignments for property items	Reduces the cycle time involved in the process of assigning catalog codes and decal numbers to property items, including loans and donations
GS35	Provides the capability to determine the assigned physical locations and responsible individuals for property items, sorting by responsible individual, organizational unit or physical location	Reduces the time to identify the physical locations and responsible individuals of property items. Increases accountability and tracking of property items

ID	IMIS feature	Benefit
GS36	Automatically generates a historical listing of the physical movements of the property items	Increases the ability, and decreases the time to accurately track and monitor the physical locations of a property item
GS37	Provides the capability to maintain, review and select information from amortization tables	Reduces the cycle time involved in the identification of amortization actions, decreasing disposition processing time
GS38	Provides the capability to produce statistical summary reports of the United Nations purchases by Member States	Reduces the time to gather and report on the data and increase the accuracy of the information

Source: IMIS work-flow analysis.

Annex III

APPLICATIONS PLANNED FOR PHASES II AND III, SHOWING THOSE THAT WILL BE IMPLEMENTED IN PHASE I

Applications planned for phase II (underlining indicates applications implemented in phase I)	Applications planned for phase III (underlining indicates applications implemented in phase I)
POST CLASSIFICATION	PROGRAMME MANAGEMENT
Classification factors	Preparation of budget: instructions
	Dissemination of budget instructions
HUMAN RESOURCES	HUMAN RESOURCES
Staffing:	Staffing
Planning	Candidates selection
Competitive examinations	Appointments
	Terms and conditions
PROCUREMENT AND INVENTORY	TRAVEL AND TRANSPORTATION
Inventory control:	Official travel:
Stores and warehouses	Rules and regulations
Inventory management	Standard agreement and rates
Inventory draw	Carrier restrictions
Donations	
Disposals	
Inquiries and reports	
PERSONAL ACCOUNTS	FINANCIAL MANAGEMENT
Personal income tax:	Expenditure control:
Income tax advances	Pre-encumbrances
Income tax returns	
Inquiries and reports	
PAYROLL	
Year-end processing:	
Pension	
Taxable earnings	
Inquiries and reports	
FINANCIAL MANAGEMENT	
Cash management:	
Assessments	
Contributions	
Tax equalization fund	